

What is claimed is:

1. A semiconductor device comprising:  
a package part made of insulating resin;  
a plurality of terminal leads exposed on a  
5 mounting face of said package part; and  
a plurality of tab suspension leads exposed  
thereon;

wherein outer edges of mounting surfaces of  
said terminal leads and tab suspension leads disposed  
10 at the periphery of said package part have no burrs.

2. A semiconductor device as claimed in  
claim 1,

wherein said package part contains a  
15 semiconductor chip, which is secured on a seat area of  
a tab supported by a plurality of said tab suspension  
leads, and

wherein a conductive wire is connected between  
each electrode of said semiconductor chip and each said  
20 terminal lead.

3. A semiconductor device as claimed in  
claim 2,

wherein a wire bonding face of each said lead  
25 to which said conductive wire is connected, said seat  
area of said tab, and a face of each said tab  
suspension lead extending to said seat area are  
positioned in the same plane, and

wherein a part of each said tab suspension lead  
and said tab which are not exposed on said mounting  
face of said package part are made thinner than each  
said terminal lead and embedded inside said package  
5 part.

4. A semiconductor device as claimed in  
claim 2,

10 wherein each said terminal lead, each said tab  
suspension lead, and said tab are exposed on said  
mounting face of said package part.

15 5. A semiconductor device as claimed in  
claim 2,

15 wherein each said tab suspension lead is bent  
to provide a raised step at a midpoint thereon, and  
wherein an inner part of each said tab  
suspension lead with respect to said raised step and  
said tab supported by each said tab suspension lead are  
20 embedded inside said package part.

6. A semiconductor device as claimed in  
claim 1,

25 wherein a plating film is formed on each of  
said terminal leads and tab suspension leads which are  
exposed on said mounting face of said package part.

7. A semiconductor device fabrication

method comprising the steps of:

5 preparing a matrix-type leadframe containing a matrix of unit leadframe patterns, each of which comprises a frame part, a tab located inside said frame part, a plurality of tab suspension leads extending from said frame part to said tab for supporting said tab by tip ends thereof, and a plurality of terminal leads extending from said frame part toward said tab;

securing a semiconductor chip on said tab;

10 connecting conductive wires between electrodes of said semiconductor chip and inner end parts of said terminal leads;

15 performing single-sided molding to encapsulate said semiconductor chip, said conductive wires, and said inner end parts of said terminal leads in an insulating resin package part in a fashion that said terminal leads and tab suspension leads are exposed on a mounting face of said package part; and

20 cutting said terminal leads and tab suspension leads;

wherein, at the step of said single-sided molding, a contact-preventive part thicker than said package part is formed outside said package part, and at the step of said lead cutting, said contact-preventive part is cut.

8. A semiconductor device fabrication method as claimed in claim 7,

wherein, at the step of said single-sided molding, said contact-preventive part is formed at a position diagonally opposite to a resin injection position for forming said package part, and air vents  
5 for releasing air in formation of said package part are provided at a position where said contact-preventive part is formed and at positions on both sides with respect to a diagonal line between said resin injection position and said position where said contact-  
10 preventive part is formed.

9. A semiconductor device fabrication method as claimed in claim 7,

wherein, at the step of said single-sided molding, an elastic sheet is attached on said leadframe, and said sheet and said leadframe are sandwiched between upper and lower half molds to form said package part on a face of said leadframe where said sheet is not attached.

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10. A semiconductor device fabrication method as claimed in claim 7,

wherein, after the step of said single-sided molding, a plating film for mounting is formed at each  
25 predetermined region of said matrix-type leadframe.

11. A semiconductor device fabrication method as claimed in claim 7,

wherein, at the step of said lead cutting, said terminal leads and tab suspension leads are cut by means of die-punch cutting in which a punch is driven from a positional side of said mounting face of said package part.

5           12.       A semiconductor device fabrication method as claimed in claim 7,

10           wherein, before said semiconductor chip is secured on said tab, plating is performed to form a plating film for mounting at each predetermined region of said matrix-type leadframe.

15           13.       A semiconductor device fabrication method as claimed in claim 12,

              wherein a palladium plating film is formed in said plating.

20           14.       A semiconductor device fabrication method as claimed in claim 7,

              wherein, after said package part and said contact-preventive part are formed on each unit leadframe pattern of said matrix-type leadframe, a plurality of said matrix-type leadframes thus processed are stacked one on top of another in a fashion that a matrix-type leadframe at each upper stack position is placed on each contact-preventive part of a matrix-type leadframe at each lower stack position in cases where a

plurality of said matrix-type leadframes are stored or supplied.

15. A semiconductor device fabrication

5 method comprising the steps of:

preparing a matrix-type leadframe containing a matrix of unit leadframe patterns, each of which comprises a frame part, a tab located inside said frame part, a plurality of tab suspension leads extending from said frame part to said tab for supporting said tab by tip ends thereof, and a plurality of terminal leads extending from said frame part toward said tab;

securing a semiconductor chip on said tab;

connecting conductive wires between electrodes of said semiconductor chip and inner end parts of said terminal leads;

performing single-sided molding to encapsulate said semiconductor chip, said conductive wires, and said inner end parts of said terminal leads in an insulating resin package part in a fashion that said terminal leads and tab suspension leads are exposed on a mounting face of said package part; and

cutting said terminal leads and tab suspension leads;

wherein, at the step of said single-sided molding, an elastic sheet is attached on said leadframe, and said sheet and said leadframe are sandwiched between upper and lower half molds to form said package

part on a face of said leadframe where said sheet is not attached, and

wherein, at the step of said lead cutting, said terminal leads and tab suspension leads are cut with  
5 said sheet attached on said leadframe.

16. A semiconductor device fabrication method as claimed in claim 15,

wherein, before the step of said single-sided  
10 molding, plating is performed to form a plating film for mounting at each predetermined region of said matrix-type leadframe.

17. A semiconductor device fabrication method as claimed in claim 15,

wherein, after said package part is formed on each unit leadframe pattern of said matrix-type leadframe, a plurality of said matrix-type leadframes thus processed are stacked one on top of another with  
20 said sheet attached on each said matrix-type leadframe in cases where a plurality of said matrix-type leadframes are stored or supplied.

18. A semiconductor device fabrication method as claimed in claim 15,

wherein, after said terminal leads and tab suspension leads are cut, said sheet is removed from  
said package part, said terminal leads and said tab

suspension leads.

19. A semiconductor device fabrication method as claimed in claim 15,  
5 wherein said sheet is removed from said package part by vacuum-chucking said package part, vacuum-chucking said sheet with a vacuum nozzle, and moving said vacuum nozzle away from said package part.

10 20. A method of manufacturing an electronic apparatus through semiconductor device fabrication, comprising the steps of:

15 preparing a matrix-type leadframe containing a matrix of unit leadframe patterns, each of which comprises a frame part, a tab located inside said frame part, a plurality of tab suspension leads extending from said frame part to said tab for supporting said tab by tip ends thereof, and a plurality of terminal leads extending from said frame part toward said tab;

20 securing a semiconductor chip on said tab;

connecting conductive wires between electrodes of said semiconductor chip and inner end parts of said terminal leads;

25 performing single-sided molding to encapsulate said semiconductor chip, said conductive wires, and said inner end parts of said terminal leads in an insulating resin package part in a fashion that said terminal leads and tab suspension leads are exposed on

a mounting face of said package part;

cutting said terminal leads and tab suspension leads to provide a semiconductor device; and thereafter

surface-mounting said semiconductor device on a

- 5 predetermined wiring board for electronic apparatus production;

wherein, at the step of said single-sided molding, an elastic sheet is attached on said leadframe, and said sheet and said leadframe are sandwiched

- 10 between upper and lower half molds to form said package part on a face of said leadframe where said sheet is not attached,

wherein, at the step of said lead cutting, said terminal leads and tab suspension leads are cut with said sheet attached on said leadframe to provide said semiconductor device, and

wherein, after said sheet is removed from said package part, said semiconductor device is surface-mounted on said wiring board to produce an electronic

- 20 apparatus.